

REMARKS

Claims 1-24, 33-40, and 49-56 have been cancelled without prejudice. Claims 41, 45, 57-59 have been amended. No claims have been added. Accordingly, claims 25-32, 41-48, and 57-61 remain for examination.

Any amendments or cancellation or submissions with respect to the claims herein is made without prejudice and is not an admission that said canceled or amended or otherwise affected subject matter is not patentable. Applicant reserves the right to pursue canceled or amended subject matter in one or more continuation, divisional or continuation-in-part applications.

Rejection Under 35 U.S.C. § 112, 2nd paragraph

Claims 57-61 have been rejected under 35 U.S.C. § 112, 2nd paragraph as being indefinite for insufficient antecedent basis for "said sidewall" (claim 57) and "said wall" (claim 59). (*Office Action* at p. 2.)

Applicants have amended claim 57 to replace "said sidewall" with "a sidewall of said article," and claim 59 to replace "said wall" with "said sidewall." Accordingly, Applicants respectfully submit that claims 57-61 satisfy § 112, 2nd paragraph and respectfully request withdrawal of this rejection.

Rejection Under 35 U.S.C. § 103

Claims 25-32, 41-48, and 57-61 have been rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,526,821 to McHenry et al. ("McHenry") in view of U.S. Patent No. 5,248,364 to Liu et al. ("Liu"). (*Office Action* at pp. 2-3.) Applicants respectfully traverse this rejection in view of the following amendments and remarks.

The Examiner alleges that McHenry teaches "mixing an adhesion promoter to the resin used to form the barrier layer, or to the resin used to form surface layers, or to both." (*Id.*) The Examiner further cites McHenry for teaching that "the barrier resin can

be EVOH and the surface layer-forming resin can be a polyethylene/polypropylene mix ... or polyethylene, polypropylene, or ethylene vinyl acetate.” (*Id.* at p. 3.) The Examiner, however, admits that McHenry fails to teach an adhesion promoter that is an alkylene amine polymer and thus, turns to Liu for teaching a “polyethyleneimine as an adhesive for materials such as nylon and polyolefin.” (*Id.*)

Applicants respectfully submit that one of ordinary skill in the art would not combine the teachings of McHenry or Liu, or that even if the teachings could be so combined, would not lead to the claimed invention.

McHenry is directed to a method of forming a multi-layer container by injection molding, where the “container walls comprise inner and outer layers of structural polymers such as polyolefins or a blend of polyolefins on either side of a core layer of a polymer having oxygen barrier properties, such as EVOH.” (*McHenry* at col. 2, ll. 32-40.) McHenry notes, however, that “[p]olyolefins do not adhere well to EVOH” and teaches improving adhesion “by adding adhesion promoters to the polyolefin, the EVOH or both” or by providing “an intermediate layer of an adherent polymeric material which adheres to the polyolefin and the EVOH.” (*Id.* at col. 7, ll. 1-6.) McHenry lists a variety of such suitable materials (col. 7, ll. 6-25), which notably does not include the claimed amine polymer.

Liu describes a method of producing a polypropylene melt extrusion laminate comprising “extruding onto an imine primed substrate a layer of a maleated high molecular weight polypropylene/low density polyethylene blend.” (*Liu* at col. 1, ll. 59-63.) Liu’s disclosure rests on the discovery that “maleated high molecular weight polypropylene compositions can be inseparably or destructively bonded to non porous substrates primed with imine primer.” (*Id.* at col. 2, ll. 18-21.) Although Liu does not limit the disclosure to non porous substrates (col. 2, ll. 35-37), Liu lists preferred substrates such as “polycarbonate, polyesters, nylons, and metallic foils” but does not mention EVOH. (*Id.* at col. 2, ll. 48-51.)

Applicants respectfully submit that one of ordinary skill in the art would not find Liu’s teachings relevant to McHenry’s invention. McHenry presents the specific problem

of binding polyolefins to EVOH. McHenry also presents the solution by disclosing specific adhesion promoters or adherent polymeric materials that are relevant for polyolefins and EVOH. In contrast, Liu teaches that imines are useful for binding maleated polyolefins and does not mention their use for binding EVOH. Moreover, there is no evidence that McHenry's materials would be deficient for binding polyolefins to EVOH, nor is there evidence that Liu's imines are superior. Because McHenry already presents a solution for binding polyolefins to EVOH, whereas Liu does not even address McHenry's materials, and there is no evidence of the superiority of Liu's imines, neither McHenry nor Liu would motivate one of ordinary skill in the art to substitute the imine of Liu for the materials taught explicitly by McHenry to be useful for the purpose of binding polyolefins to EVOH.

Even if the references could be combined, which is not conceded here, the combined teachings would not result in the claimed invention. Independent claim 25 recites blending a barrier resin with an adhesion promoting material, where the resulting blend is in layers alternating with layers of polyester resin. Independent claim 41 has been amended to recite the same blend in layers alternating with layers of matrix resin comprising an ester-containing resin. Independent claim 57 has been amended to recite blending an alkylene imine polymer with a barrier resin and positioning the blend adjacent an ester-containing resin.

Combining McHenry with Liu would involve replacing the adhesion promoter or adherent polymeric material of McHenry with the imine of Liu, resulting in a polyolefin bonded to EVOH with the aid of an imine. However, the resulting article does not teach or suggest the claimed invention, each of which requires a polyester or ester-containing polymer. Thus, the references do not teach or suggest each and every limitation of the claimed invention, which is a requirement for establishing a *prima facie* case of obviousness. (M.P.E.P. § 2143.03.)

To account for this deficiency, the Examiner further alleges that it is "generally well known in the art to use polyester resin ... to form containers." (*Office Action at*

p. 3.) The Examiner concludes that it would have been obvious to use a resin such as PET or PEN "to modify the method taught by McHenry." (*Id.*)

Applicants respectfully submit that such alleged general knowledge does not necessarily apply to each and every container in the food packaging industry. If anything, McHenry describes containers without a polyester. McHenry teaches that containers for food products "must be impermeable to oxygen." (*McHenry* at col. 1, ll. 7-8.) EVOH is noted for having high impermeability to oxygen while polyolefins are known for having good moisture barrier properties. (*Id.* at col. 1, ll. 36-38.) McHenry concludes that "polyolefins with a central core of an oxygen barrier polymer is a desired goal of the food-packaging industry." (*Id.* at col. 1, ll. 38-40.)

Thus, McHenry makes it clear that it is essential for the container to have a polyolefin layered with an oxygen barrier core for food packaging use. There is no suggestion in either McHenry or Liu to modify the container of McHenry to add polyester layers, particularly in light of McHenry's teachings of the useful properties of polyolefin and EVOH. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." (M.P.E.P. § 2143.01.III.) Here, the Examiner is alleging a modification without any evidence of the desirability of such a modification.

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, Applicants respectfully request withdrawal of this rejection.

Double Patenting Rejection

Claims 25-32, 41-48, and 57-61 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over the claims of copending Application No. 10/388,616 in view of Liu.

Applicants respectfully disagree that the rejected claims are obvious in view of the claims of copending Application No. 10/388,616 in view of Liu. However, to expedite prosecution, Applicants submit a terminal disclaimer to render moot the

obviousness-type double patenting rejection. Accordingly, Applicants respectfully request withdrawal of this rejection.

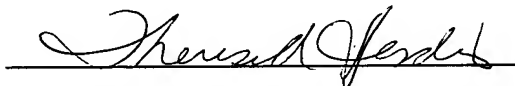
It is believed that all claims of the present application are now in condition for allowance.

Reconsideration of this application is respectfully requested. If the Examiner believes that a teleconference would expedite prosecution of the present application the Examiner is invited to call the Applicant's undersigned attorney at the Examiner's earliest convenience.

Please grant any extensions of time required to enter this response and charge any fees in addition to fees submitted herewith that may be required to enter/allow this response and any accompanying papers to our deposit account 02-3038 and credit any overpayments thereto.

Respectfully submitted,

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